



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,318	05/15/2001	Gregory J. Kellogg	674182-2004	3092
20999	7590	06/05/2006	EXAMINER	
FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			CROSS, LATOYA I	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/858,318	KELLOGG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	LaToya C. Younger	1743	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-24 and 32-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-24 and 32-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/13/06</u>   | 6) <input type="checkbox"/> Other: _____                                    |

Art Unit: 1743

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 13, 2006 has been entered.

### *Withdrawal of Rejections from Previous Office Action*

The obviousness rejection over Kellogg in view of Kellogg is withdrawn in view of Applicants' statement that the two references were commonly owned with the instant application at the time the invention was made. The references are, therefore, not available as prior art against the instant claims.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1743

3. Claims 1-7,9-24 and 32-56 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5-20 and 29-37 of U.S. Patent No. 6,582,662 to Kellogg et al in view of US Patent 6,063,589 to Kellogg et al. The Kellogg et al '62 patent contains claims directed to a microsystems platform comprising a rotatable platform having a substrate with microfluidic structures wherein the microfluidic structures comprise reagent reservoirs, sample reservoirs, a collection chamber (detection chamber) and a mixing microchannel, wherein microchannels fluidly connect all of the chambers and reservoirs. The '662 patent also contains claims directed to a method of homogenous mixing and a method for performing biological reactions. The claims of the instant invention comprise the same rotatable platform having the same microfluidic structures. The claims of the instant invention also recite the same methods of mixing and biological reaction. The instant invention differs only in the addition of a reagent aliquotting manifold, bulk reagent chambers and an overflow reservoir. Kellogg et al '589 teaches such a reagent aliquotting manifold, with a bulk reagent reservoir and an overflow chamber in a microsystem platform to allow imprecise amounts of reagent to enter the system while causing precise amounts of reagent to be delivered to the various chambers by rotational forces. It would have been obvious to one of ordinary skill in the art to incorporate a reagent manifold, with a reagent reservoir and overflow chamber into the microsystem platform of the '662 patent to provide a device that allow distribution of fluids throughout the system without needing initial precise measurements.

4. Claims 1-7,9-23 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 10/746,821 in view of US Patent 6,063,589 to Kellogg et al. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application has claims directed to a microsystem platform comprising sample reservoirs, an overflow reservoir, diluent reservoirs (reagent

Art Unit: 1743

reservoir), a metering manifold (reagent manifold) and microchannels that connect all of the chambers and reservoirs. The instant application is different from the copending application only in the addition of detection chambers. Kellogg et al '569 teach the use of detection chambers to allow the sample to be analyzed while moving throughout the device. It would have been obvious to one of ordinary skill in the art to incorporate detection chambers into the device of the '821 application to provide analysis means in the device and allow the sample to be analyzed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 37 and 38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 of U.S. Patent No. 6,709,869 to Mian et al in view of US Patent 6,063,589 to Kellogg et al. Mian et al contains claims directed to a method for biological detection using a microsystem platform having sample chambers, reagent reservoirs, detection chambers and microchannels fluidly connecting all of the chambers and reservoirs. The claims of the invention recite the same method of biological detection using a microsystem platform, differing only in the presence of a reagent manifold with an overflow chamber and a reagent reservoir. Kellogg et al '569 teach such a reagent aliquotting manifold, with a bulk reagent reservoir and an overflow chamber in a microsystem platform to allow imprecise amounts of reagent to enter the system while causing precise amounts of reagent to be delivered to the various chambers by rotational forces. It would have been obvious to one of ordinary skill in the art to incorporate a reagent manifold, with a reagent reservoir and overflow chamber into the microsystem platform of the '662 patent to provide a device that allow distribution of fluids throughout the system without needing initial precise measurements.

Art Unit: 1743

*Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7, 11, 14-16, 32-56 are rejected under 35 U.S.C. 102(b) as being anticipated by European publication 0 608 006 to Abaxis, Inc.

Abaxis teaches analytical rotors which are microsystem platforms that use centripetal force to move micro volumes of fluids throughout the device. As shown in figure 1, the circular disk device comprises a blood application (sample application) port (22), which serves as a reservoir into which a blood sample enters. The device also comprises a metering chamber (40) into which blood flows via an inlet segment (42). The metering chamber separates the “bulk” fluid into an exact amount and an excess amount, wherein the excess amounts flows to an overflow chamber (44). The exact amount of fluid needed is that amount which remains in the metering chamber after the excess has flowed to the overflow chamber. The device further comprises a reagent chamber (80) and a detection chamber (92). All of the chambers are fluidly connected to one another by way of microchannels (42, 46, 70, 82, 94). An embodiment of the shown in figures 22-24 comprises a blood metering chamber (316) and a diluent (reagent) metering chamber (306). The diluent metering chamber has bulk diluent reservoir (304) and an overflow chamber (310) with a connecting channel (312). The bulk diluent reservoir is equivalent to Applicants’ claimed bulk reagent reservoir, while the diluent metering chamber is equivalent to Applicants’ claimed reagent aliquotting manifold because the diluent metering chamber provides an exact amount of diluent in the chamber and causes excess diluent to flow to the overflow chamber.

Art Unit: 1743

Further, a mixing chamber may be included, wherein the mixing chamber is connected to the sample chamber and diluent chamber. With respect to claim 2, the entry (22) serves a sample inlet for the blood sample. With respect to claim 3, the opening to the reagent chamber serves as a reagent inlet. With respect to claim 4, 15 and 16, Abaxis teaches that each of the layers of the device is composed of transparent plastic (col. 14, lines 41-43). With regard to the capacity of the reservoirs, the reference teaches that the metering chamber (either sample or reagent metering chamber) has a volume of 0.005-0.05 cc (5000-50000 nL), as recited in claims 5 and 6. The reference further teaches that the volume of the detection wells is about 0.005-0.015 cc (5000-15000 nL). See col. 16, lines 16-24 and col. 17, lines 42-45. with regard to claim 11, Abaxis teaches that spinning of the rotor causes a radially outward flow of the biological fluid through the device. The rotor is spun at a rate of 1500-5000 rpm for a time ranging from 20 seconds to five minutes. With regard to the method of claims 33-39, Abaxis teaches that a sample is introduced into the rotor device along with reagents and diluents in respective reagent and diluent chambers. The rotor is spun to allow the sample to pass via the channels between the chambers. The reference teaches spinning at a lower speed, followed by rapid acceleration (col. 24, lines 29-36).

### *Response to Arguments*

8. Applicant's arguments filed March 13, 2006 have been fully considered but they are not persuasive.

With respect to the obviousness-type double patenting rejections, Applicants argue that the rejections are improper due to the Examiner's use of a secondary reference. In response, the Examiner notes that MPEP 804 states that "any analysis employed in an obviousness type double patenting rejection parallels the guidelines for analysis of a 35 USC 103 obviousness determination". Thus,

Art Unit: 1743

Applicants are indeed correct in that the double patenting rejections given in the previous Office Action (and restated herein) do parallel obviousness rejections under 103. The MPEP instructs one to consider the differences between the instant claims and those already patented (or currently co-pending) and then determine the level of ordinary skill in the pertinent art. In the instant application, the claims are obvious variants of claims that have been previously patented (or are currently co-pending) because the limitations that are lacking in the patented application are things that are already known in the art, as evidenced by the secondary reference.

To overcome the double patenting rejections, Applicants should file appropriate terminal disclaimers.

With respect to the anticipation rejection over Abaxis, Inc., Applicants argue that the reference fails to teach a mixing microchannel. In response, the Examiner again notes that Abaxis, Inc. teaches a mixing chamber, as well as the other components in the system are microscale in dimension. With respect to the mixing chamber being a "microchannel", the Examiner again submits that there is no patentable difference between a chamber and a channel, where Applicants have not stated any reason why a channel would give unexpected results over a chamber.

Applicants further argue that a reagent manifold is not taught or suggested in fluid connection to an overflow reservoir. In response the Examiner notes that Abaxis, Inc. teaches a reagent chamber (80) and overflow chamber (44). With respect to the reagent chamber being "fluidly coupled" to the overflow chamber, Abaxis, Inc. teach that all the components of the system are in fluid communication with one another via microchannels. See page 16, lines 16-18.

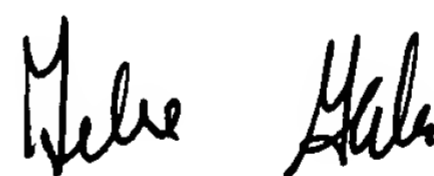
Art Unit: 1743

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya C. Younger whose telephone number is 571-272-1256. The examiner can normally be reached on Monday-Friday 10:30 a.m. - 8:00 p.m. and on alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lcy



**YELENA GAKH  
PRIMARY EXAMINER**